## REMARKS

Claims 1-37 are pending in the application. Applicants appreciate the indication of allowable subject matter in Claims 7, 8, 14-16, 24, 25, 34 and 35. Applicants have amended Claims 2, 3, 16, 17, 19, 20, 24, 29, 34 and 35 to define the terms CM, JM and INFO0. Applicants have amended Claim 30 to correct the dependency of Claim 30. Claims 1-6, 9-13, 17-23, 26-33, 36 and 37 stand rejected under 35 U.S.C. § 102(b) as anticipated by United States Patent No. 5,625,643 to Kaku (hereinafter "Kaku"). Applicants submit that these claims are patentable over Kaku for the reasons discussed below.

### The IDS

Applicants note that the PTO 1449 form returned with the present Official Action indicated that copies of certain non-patent references were not provided. Applicants submit herewith a duplicate copy of the PTO-1449 form with copies of the non-patent references. Applicants also provide a copy of the postcard returned by the USPTO indicating that copies of the references were provided with the original filing. As such, Applicants request that the Examiner consider the non-patent references and provide an initialed copy of the PTO-1449 form with any subsequent action.

### The Section 112 Rejections

Claims 2-10, 16, 17, 19-27, 29 and 34 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite as the terms "CM," "JM" and/or "INFO0" are not defined in the claims. Applicants have amended the claims to provide definitions for such terms. These definitions are from the ITU-T V.8 and V.90 specifications as recited in the specification. *See e.g.,* Specification, p. 11, line 11 to p. 13, line 13. Applicants submit that such amendments do not change the scope of the claims. Applicants also submit that such amendments overcome the rejection based on Section 112.

### The Section 102 Rejections

As discussed above, Claims 1-6, 9-13, 17-23, 26-33, 36 and 37 are rejected as anticipated by Kaku. Kaku describes a system where a first energy level is used to detect the presence of a carrier and a second energy level is used to detect that the carrier has been

dropped. Kaku, Fig. 9 and col. 12, lines 14-20. Furthermore, these thresholds are "determined in advance." Kaku, col. 12, lines 14-20. If a carrier is detected using the first threshold, then the threshold is set to the second threshold to determine that a carrier has been dropped. Kaku, col. 12, lines 25-33. Kaku does not evaluate the demodulated signal data for data patterns in making the determination of which threshold to used but merely switches to the carrier drop threshold if a carrier has been detected and uses the carrier detection threshold if no carrier has been detected. The carrier drop threshold of Kaku is fixed and known in advance.

In contrast to the system of Kaku, embodiments of the present invention as reflected in Claim 1 update a carrier drop detection threshold "based on the received signal **responsive to a selected data pattern in the signal data**." Similar recitations are found in independent Claims 11, 18 and 28. The Official Action quotes from Kaku, col. 13, lines 25-30 as disclosing updating the threshold based on a selected data pattern. However, the cited portion of Kaku merely describes the condition where, because of the filter used in Kaku, certain data patterns may result in a zero power calculation. Kaku does not solve this problem by adjusting the carrier drop detection threshold but, as described at col. 13, lines 31 to 39, adds a tone signal that "is not cut even when the receive signal passes the 100% $\cos^2$ filter." Thus, Kaku does not detect the particular bit pattern and adjust a threshold. Instead, Kaku adds a tone signal that is passed through the filter. Accordingly, Applicants submit that the portions of Kaku relied on in the Official Action do not disclose or suggest each of the recitations of Claims 1, 11, 18 and 28 and, therefore, Kaku does not anticipate independent Claims 1, 11, 18 and 28 or the claims that depend from them.

Independent Claim 17 recites that "a threshold circuit...latches a carrier drop detection threshold based on a current value of the received signal strength responsive to detection of at least one of the call menu (CM) and the joint menu (JM) signal by the receiver circuit." Thus, Claim 17 recites latching the threshold value based on receipt of the CM or JM signal. As discussed above, Kaku uses a predefined fixed threshold for carrier drop detection. Kaku col. 12, lines 18-20 ("threshold level (energy level) L2 for a determination of the CDI-OFF (absence of a carrier) are determined in advance."). Furthermore, Fig. 11 and the discussion of Fig. 11 in Kaku does not disclose or suggest using the CM or JM signals as a trigger for latching a carrier dropped detection threshold based on the current value of the

received signal strength. Thus, Applicants submit that independent Claim 17 is neither disclosed nor suggested by Kaku.

Applicants also submit that dependent Claims 2-5, 9, 10, 12, 12, 19-23, 26, 27, 29-33, 36 and 37 are patentable as depending from a patentable base claim. However, Applicants submit that certain of these claims are also separately patentable over Kaku. For example, Claims 2, 16, 19 and 29 each recite that the data pattern is the CM or the JM signal. As discussed above, the cited portion of Kaku does not disclose updating a threshold based on receipt of the CM or the JM signal. Accordingly, Claims 2, 16, 19 and 29 are separately patentable over the cited references for at least these additional reasons.

Claims 3, 13, 20 and 30 recite latching a signal strength based on detection of a selected bit pattern and/or a valid CM or JM signal and establishing a threshold based on this latched signal strength. As discussed above, the portions of Kaku relied on in the Official Action describe the use of two fixed thresholds. These portions of Kaku do not describe latching a signal strength and setting a threshold based on the latched value. Furthermore, Claims 3, 14, 20, 23, 30 and 33 recite that the carrier drop detection threshold is set to an amount below the measured level. The portions of Kaku relied on in the Official Action also do not disclose or suggest setting the carrier drop detection threshold to an amount below a level measured when a particular data pattern, such as the CM or JM signals, are detected. Accordingly, Applicants submit that Claims 3, 13, 14, 20, 30 and 33 are separately patentable over the cited references for at least these additional reasons.

## Conclusion

In light of the above amendments and remarks, Applicants respectfully submit that the above-entitled application is now in condition for allowance. Favorable reconsideration of this application is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

It is not believed that an extension of time and/or additional fee(s)-including fees for net addition of claims-are required, beyond those otherwise provided for in documents accompanying this paper. In the event, however, that an extension of time beyond the one month extension submitted concurrently herewith is necessary to allow consideration of this

paper, such an extension is hereby petitioned under 37 C.F.R. §1.136(a). Any additional fees

believed to be due in connection with this paper may be charged to IBM Deposit Account No.

50-0563.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an
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Traci A. Brown
Date of Signature: October 25, 2002

# VERSION WITH MARKINGS SHOWING CHANGES

## In the Claims:

Please amend Claim 2 to recite as follows:

2.     (Amended)     A method according to Claim 1 wherein the modem uses a V.8 standard during startup and the step of updating comprises the step of updating the carrier drop detection threshold responsive to a selected data pattern in the signal data corresponding to at least one of a call menu (CM) signal and a joint menu (JM) signal.

Please amend Claim 3 to recite as follows:

3.     (Amended)     A method according to Claim 1 wherein the updating step further comprises the steps of:

setting a flag to indicate receipt of at least one of a valid call menu (CM) signal and a valid joint menu (JM) signal;

latching an output of a signal strength detector responsive to setting of the flag, the signal strength detector being coupled to the received signal and the output of the signal strength detector corresponding to a signal strength level of the received signal; and

setting the carrier drop detection threshold to a value a predetermined amount below the latched output of the signal strength detector responsive to setting of the flag.

Please amend Claim 7 to recite as follows:

7.     (Amended)     A method according to Claim 3 wherein the detecting a carrier drop step further comprises the step of detecting a carrier drop corresponding to a silence transmission terminating a V.8 standard phase 1 and wherein the detecting a carrier drop step is followed by the step of conditioning the modem to receive a phase 2 information (INFO0) signal.

Please amend Claim 16 to recite as follows:

16.     (Amended)     A carrier detection system according to Claim 14 wherein the selected data pattern in the data signal is at least one of a call menu (CM) signal and a joint menu (JM) signal.

Please amend Claim 17 to recite as follows:

17.    (Amended)    A carrier drop detection system for a V.8 standard modem startup sequence, the system comprising:

a receiver circuit that receives a signal;

a detector circuit coupled to the receiver circuit that detects at least one of a <u>call menu</u> (CM) signal and a <u>joint menu (JM)</u> signal from the received signal;

a signal strength detection circuit coupled to the receiver that outputs a received signal strength for the received signal;

a threshold circuit coupled to the receiver circuit that latches a carrier drop detection threshold based on a current value of the received signal strength responsive to detection of at least one of the CM and the JM signal by the receiver circuit; and

a comparator circuit coupled to the threshold circuit and the signal strength detection circuit that compares the received signal strength to the carrier drop detection threshold to detect a carrier drop corresponding to an end of the startup sequence.

Please amend Claim 19 to recite as follows:

19.    (Amended)    A system according to Claim 18 wherein the modem uses a V.8 standard during startup and the means for updating comprises means for updating the carrier drop detection threshold responsive to a selected data pattern in the signal data corresponding to at least one of a <u>call menu (CM)</u> signal and a <u>joint menu (JM)</u> signal.

Please amend Claim 20 to recite as follows:

20.    (Amended)    A system according to Claim 18 wherein the means for updating further comprises:

means for setting a flag to indicate receipt of at least one of a valid <u>call menu (CM)</u> signal and a valid <u>joint menu (JM)</u> signal;

a signal strength detector coupled to the received signal and having an output corresponding to a signal strength level of the received signal;

means for latching an output of the signal strength detector responsive to setting of the flag; and

means for setting the carrier drop detection threshold to a value a predetermined amount below the latched output of the signal strength detector responsive to setting of the flag.

Please amend Claim 24 to recite as follows:

24.    (Amended)    A system according to Claim 20 wherein the means for detecting a carrier drop further comprises means for detecting a carrier drop corresponding to a silence transmission terminating a V.8 standard phase 1 and further comprising means for conditioning the modem to receive a phase 2 information (INFO0) signal.

Please amend Claim 29 to recite as follows:

29.    (Amended)    A computer program product according to Claim 28 wherein the modem uses a V.8 standard during startup and the computer readable code which updates comprises computer readable code which updates the carrier drop detection threshold responsive to a selected data pattern in the signal data corresponding to at least one of a call menu (CM) signal and a joint menu (JM) signal.

Please amend Claim 30 to recite as follows:

30.    (Amended)    A computer program product according to Claim [18]28 wherein the computer readable code which updates further comprises:

computer readable code which sets a flag to indicate receipt of at least one of a valid CM signal and a valid JM signal;

computer readable code which outputs a signal strength level of the received signal;

computer readable code which latches the output of the computer readable code which outputs a signal strength level responsive to setting of the flag; and

computer readable code which sets the carrier drop detection threshold to a value a predetermined amount below the latched output responsive to setting of the flag.

Please amend Claim 34 to recite as follows:

34.    (Amended)    A computer program product according to Claim 30 wherein the computer readable code which detects a carrier drop further comprises computer readable

code which detects a carrier drop corresponding to a silence transmission terminating a V.8 standard phase 1 and further comprising computer readable code which conditions the modem to receive a phase 2 information (INFO0) signal.